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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,730	06/20/2001	Takashi Katsura	M2047-13	5577
7278	7590	07/15/2004	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			LU, TOM Y	
			ART UNIT	PAPER NUMBER
			2621	

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,730

Applicant(s)

KATSURA ET AL.

Examiner

Tom Y Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. With regard to Claim 1, applicant discloses a step of “forming real embedding information in which *a redundancy bit* with a fixed length that is used for error correction of *an information bit* is added immediately after said information bit in which said packing data is subdivided into data each having a fixed length”, which the limitations of “a redundancy bit” and “an information bit” don’t correspond to the specification, where “information bits” are “21 bits” and “redundancy bits” are “10 bits” for each subdivision, page 13, lines 10-11, also see figure 2.
- b. Claims 2-4 are rejected as being dependent upon Claim 1.
- c. Claim 5 is rejected for the same reason given in Claim 1.
- d. Claims 6-7 are rejected as being dependent upon Claim 5.
- e. Claim 8 is rejected for the same reason given in Claim 1.
- f. Claims 9-12 are rejected as being dependent upon Claim 8.
- g. Claim 13 is rejected for the same reason given in Claim 1.
- h. Claims 14-18 are rejected as being dependent upon Claim 13.

Claim Rejections - 35 USC § 101

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35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 5-7 are rejected under 35 U.S.C. 101 because:

- a. Claim 5 recites a recording medium for recording an image comprising means, however, a recording medium is merely a storage medium, which cannot contain means.
- b. Claims 6-7 are rejected as being dependent upon Claim 5.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5, 7-8, 10-13 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamae et al (US Patent No. 6,404,781 B1) in view of Hosaka et al (U.S. Patent No. 6,731,774). Note with regard to Claims 5, 8 and 13, the limitation of "said packing data is subdivided into data each having a fixed length" is not examined because the means for carrying such function is not recited in the claim. "[A]pparatus claims cover what a device is, not what a device does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

- a. With regard to Claim 8, Kawamae teaches embedding data input means for acquiring embedding data to be embedded as a digital watermark (Kawamae: column 5, lines 5, lines 56-57, identification information bits 1

are generated to be inputted to ECC generator 2 as shown in figure 5. The identification information bits 1 are the claimed "embedding data"); packing data forming means for forming packing in which embedding data is repeatedly connected at least three times (Kawamae: column 10, lines 17-21, same additional information data, which includes information identification bits and error correction parities as mentioned at column 9, line 4-5, are repeated P times. The number of P is preferable to be at least 3 because of the majority rule decision mentioned at column 11, lines 36-41); redundancy bit addition means for forming real embedding information in which redundancy bits with a fixed length that are used for error correction of information bits are added immediately after said information bit in which said packing data is subdivided into data each having a fixed length (Kawamae: m error correction bits are added as shown in figure 1, also see applicant's own drawing figure 6); embedding means for embedding said real embedding information into image data concerned (Kawamae: embedding device 7, see figure 5); and output means for writing information onto a recording medium on the basis of said image data concerned in which said real embedding information is embedded (Kawamae: the recording medium is DISC 11 in figure 5). Kawamae does not explicitly teach the embedding data is repeatedly connected sequentially without interval. Hosaka at column 4, lines 51-55, teaches watermark wm is repeated vertically and horizontally as shown in figure 8B, which is sequentially connected without intervals. At the time

the invention was made, a person of ordinary skill in the art would have been motivated to repeat a watermark at least 3 times, and sequentially connect the repeated watermarks without intervals because Hosaka at column 12, lines 52-55, teaches it posts an advantage of “suppressing a lowering of detection accuracy, an increase of detection time, a deterioration of picture quality, and an increase of detection processing amount”.

- b. With regard to Claim 5, all limitations are addressed in Claim 8.
- c. Referring to Claim 7, Kawamae teaches means for interleaving said real embedding information (see figure 4 for interleaving), and thereafter multiplexedly embedding said real embedding information (see figure 6, multiplex broadcast).
- d. With regard to Claim 10, see explanation in Claim 7.
- e. Referring to Claim 11, Kawamae teaches comprising image data input means for outputting said image data (pickup 10, see figure 5).
- f. Referring to Claim 12, Kawamae teaches wherein said image data input means includes image pickup means (pickup 10, see figure 5).
- g. With regard to Claim 13, all limitations are addressed in Claim 8.
- h. With regard to Claim 15, see explanation in Claim 10.
- i. With regard to Claim 16, see explanation in Claim 11.
- j. Referring to Claim 17, Kawamae teaches real embedding information detection means for extracting real embedding information embedded in information read from said recording medium on the basis of said

information (embedder data detector 14, figure 5); error correction means for making an error correction by said redundancy bits with respect to said real embedding information (error correction device 16); and majority decision means for executing a majority decision for each corresponding bit of said information bits with respect to said real embedding information that has been corrected by said error correction means, and making an error correction by said majority decision (majority rule decision device 15).

- k. Referring to Claim 18, Kawamae teaches error rate calculation means for calculating an error rate of image data concerned with reference to an error rate in said error correction by said redundancy bits and an error rate in said error correction by majority decision; and falsification judgment means for comparing an error rate of image data concerned calculated by said error rate calculation means with a predetermined threshold, and, if the error rate of image concerned exceeds said threshold, judging that a falsification exists, and, if not judging that no falsification exists (column 10, lines 56-67, and column 14, lines 15-26).

4. Claims 6, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamae et al and Hosaka et al as applied to claims 5, 8 and 13 above, and further in view of Lewis et al (U.S. Patent No. 6,725,372 B1). The arguments in Paragraph 3 above as to the applicability of Kawamae et al and Hosaka et al are incorporated herein.

- a. Referring to Claim 6, the combination of Kawamae and Hosaka does not teach encrypting said embedding data. Lewis at column 3, line 12, teaches the

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watermark bits can be encrypted. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to encrypt the embedding data because Lewis teaches it provides additional level of protection to the host image, column 13, line 19.

- b. With regard to Claim 9, see explanation in Claim 6.
- c. With regard to Claim 14, see explanation in Claim 6.

Allowable Subject Matter

5. Claims 1-4 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter:

- a. Independent Claim 1 defines a feature step of forming real embedding information in which redundancy bits with a fixed length that are used for error correction of an information bit is added immediately after said information bits in which said packing data is subdivided into data each having a fixed length. This feature in combination with other features in Claim 1, which is the broadest allowable claim, is not taught or suggested by the art of record.

- b. Claims 2-4 are dependent upon Claim 1.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Y Lu whose telephone number is (703) 306-4057.

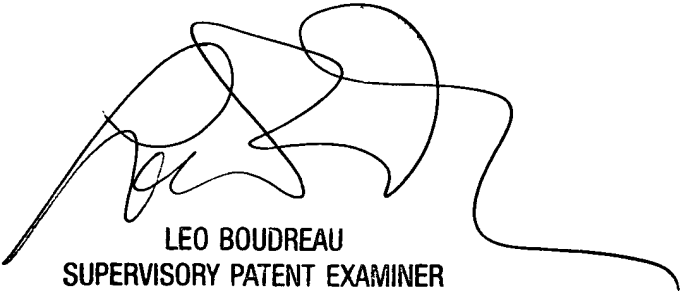
The examiner can normally be reached on 8:30AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Y. Lu



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